REMARKS

Applicant respectfully requests the consideration of the following remarks and the reconsideration of the application.

Claims 1, 10, 23, 34, 43, 52 and 65 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Claims 1, 10, 23, 34, 43, 52 and 65 are currently amended to correct errors so that the terms used have sufficient antecedent basis.

Claims 4, 17, 39, 46 and 59 were rejected under 35 U.S.C. 112, first paragraph as failing to comply with the enablement requirement. Claims 1-3, 6, 8-10, 15-16, 19, 21-23, 27-28, 30, 32-34, 37-38, 41-45, 48, 50-52, 57-58, 61 and 63-65 were rejected under 35 U.S.C. 102(e) as being anticipated by Carter (U.S. Patent No. 6,201,611). Claims 5, 18, 29, 40, 47 and 60 were rejected under 35 U.S.C. 103(a) as being unpatentable over Carter. Claims 7, 20, 31, 49 and 62 were rejected under 35 U.S.C. 103(a) as being unpatentable over Carter in view of Maniwa (U.S. Patent No. 5,768,483). Claims 11-12, 14, 24-25, 35-36, 53-54, 56 and 66-67 were rejected under 35 U.S.C. 103(a) as being unpatentable over Carter in view of Koga (EP Patent No. 1,026,578). Claims 13, 26, 55 and 68 were rejected under 35 U.S.C. 103(a) as being unpatentable over Carter, in view of Koga and further in view of Mogul (U.S. Patent No. 6,243,761). Applicant respectfully disagrees.

Claims 4, 17, 39, 46 and 59 were rejected under 35 U.S.C. 112, first paragraph as failing to comply with the enablement requirement, since these claims recite the limitation of "no running operating system." Applicant respectfully disagrees. The Office Action stated that "It is not generally well known to operate network-enabled PDAs without an operating system." However, Applicant respectfully submits that the specification teaches to use at least a particular type of PDAs, which is the subject matter of the present application and a

number of prior applications of the same inventor of the present application, such as U.S. Patent Applications No. 09/496,172, 09/501,585, 09/504,807, 09/504,808 and 09/504,809. A description of such a PDA is provided on pages 5-8 of the specification. Unlike a traditional PDA device (e.g., a Palm Pilot computer running a Palm operation system or a hand held computers running Windows CE operating system), the PDA device according to the inventor does not require a powerful microprocessor. Further, it may not run an operating system.

In one embodiment, the portable device according to the inventor has the ability to receive and display an image that is rendered from information, such as a web page, at a remote server. According to embodiments of the present invention, the server renders the entire web page into an image. Thus, the display of an image on the portable device does not require complicated software applications, such as a traditional web browser that is typically used on a client to render a web page for display. Therefore, the portable device does not need a traditional web browser running on top of an operating system, although embodiments of the present invention can also be used on general purpose PDAs and computers running various operating systems. From the description of the present application, it is understood that the portable device may not be a general purpose PDA that needs an operating system. A portable device according one embodiment of the present invention receives and displays images, in communication with the remote server. It is generally known how to implement electronic circuitry to communicate with a remote server, electronic circuitry to decompress and display a compressed image, electronic circuitry to control a display device and electronic circuitry to receive user input.

In one embodiment, a peripheral device (e.g., a printer or a scanner) is connected to portable device. The portable device provides a two-way communication channel between the peripheral device and the server so that the peripheral device is under the control of the

server. When the portable device transmits a message to the server to operate the peripheral device, the server generates control information to operate the peripheral device. In a traditional web application, the server transmits the web page, including HTML, JPEG and JAVA to a client; the client then uses a traditional web browser to render the web page for display. However, in one example according to the present application, the portable device displays an image that is *rendered at the server from the entire web page* that may include various components, such as text, HTML hyper-links, JPEG, and JAVA. When the portable device sends a message to the server to print the web page, the server uses the printer that is connected to the portable device to print the web page, since the server has the web page and the two-way communication channel to control the printer that is connected to the portable device.

Thus, from the description of the application, a person skilled in the art understood how to implement such a portable device, without a running operating system, for a cost effective Internet access solution. Applicant respectfully requests the withdrawal of the rejection under 35 U.S.C. 112, first paragraph.

Claims 1-3, 6, 8-10, 15-16, 19, 21-23, 27-28, 30, 32-34, 37-38, 41-45, 48, 50-52, 57-58, 61 and 63-65 were rejected under 35 U.S.C. 102(e) as being anticipated by Carter (U.S. Patent No. 6,201,611). Applicant respectfully disagrees.

Applicant does not see a two-way communication channel between the server 103 and the printer 105 of Carter. There is no description of communication in *both directions* between the server and the printer through the thin client 101 of Carter. In Figure 3 of Carter, it is seen that information flows only in one direction from the server 103 to thin client 101 to the printer 105. At most, this may be considered as a one-way communication channel between the server 103 and the printer 105 of Carter. Figure 4 shows that the printer router of the server sends a PRF (printer-ready format) job to the print receiver of the thin

client (227), the printer receiver receives the PRF job (229) and sends the PRF job to the printer (231). Thus, Carter only teaches to send the print job in the PRF format information from the server to the printer in one direction. There is no description of communication in both directions between the server and the printer in Carter.

It is understood that the system of Carter is very different from the subject matter as claimed. Carter teaches to use a remote server to convert the print job from a device-independent format (DIF) into a printer-ready format (PRF). The thin client generates the print job. After the server of Carter translates the print job from one format to another, the server of Carter returns the job back to the thin client, which then sends it to the printer for local printing. Thus, there is only one-way communication from the server to the printer. Therefore, claims 1, 6, 19, 30, 41, 48 and 61 are patentable over Carter, since these claims recite the limitation of "two-way communication channel."

Further, there is no description in Carter suggests that the printer 105 is under the control of the server of Carter, since the server of Carter only translates the print job for the client. In Carter, the DIF (device-independent format) producer 109 of the thin client 101 generates the print job in the DIF format, which is then translated by the server of Carter into the PRF format. However, claim 2 recites:

> 2. (previously presented) A method to operate a peripheral device, the method comprising:
>
> receiving at a server an instruction from a remote device to operate the peripheral device, the peripheral device being connected to a port of the remote device;
>
> in response to the instruction, the server:
>
> generating control information recognizable by the peripheral device when applied onto the port; and

communicating the control information to the remote device for applying onto the port of the remote device to operate the peripheral device under control of the server.

In one embodiment of the present invention, the portable device displays the image that *is rendered on the server from the entire web page*. The image, not the web page itself, is transmitted to the device for display. Thus, the device does not need the complicated software to render the web page. Further, when a print message is sent to the server, the application running on the server, not the portable device, generates the print job. Since the printer connected to the portable device is under the control of the server, through the two-way communication channel, the server controls the printer of the portable device to print the web page. The portable device does not send the web page to the web server to print. The portable device does not generate the print job for the server to translate. However, Cater teaches to use the server as a network tool to translate the print job for the thin client. The server of Carter translates the print job without operating the printer under the control of the server in response to the instruction to operate the printer. Thus, at least for the above reasons, claims 2, 15, 27, 37, 44 and 57 are patentable over Carter.

Further, for example, claim 9 recites:

9. (currently amended) The method of claim 8, wherein the instruction from the remote device requests to print a document; the server generates the control information according to the document for printing using the printer; and, the document is not received from the remote device.

However, the server of Carter translates the print job, which is received from the thin client. Similarly, claims 22, 33, 42, 51 and 64 are patentable over Carter, since these claims recite the limitation of "the document is not received from the remote device."

Since dependent claims incorporate the limitations of the claims from which they depend, claims 1-68 are patentable over Carter at least for the above reasons.

Claims 5, 18, 29, 40, 47 and 60 were rejected under 35 U.S.C. 103(a) as being unpatentable over Carter. Applicant respectfully disagrees. For example, claim 5 recites:

> 5. (previously presented) The method of claim 2, further comprising:
> generating at the server an image showing options to operate the peripheral device;
> transmitting the image from the server to the remote device for display;
> receiving at the server from the remote device data specifying user input relative to the image; and
> applying at the server one or more options to operate the peripheral device according to the data specifying the user input relative to the image.

The Office Action asserted that, from the description of Carter, it would be obvious to store the printer application on the server, and thus to send print option images from the server to the portable device for selection. However, such modifications are well beyond the scope and teaching of Carter. The modifications suggested in the Office Action would involve much more than a print subsystem. In the context of Carter, there is no evidence that it is advantageous to move the printer application onto the server, since such a modification requires complications in other subsystems and other client and server relations. If the desirability and advantages were obvious, Carter would have described or suggested such an embodiment. However, to meet the objective as stated in the summary section, Carter only

suggested using the server to translate the print job for the thin client. Thus, Carter teaches to modify only a portion of a print subsystem. Carter teaches running application programs on the thin client, which generates the print job in a device-independent format (DIF) on the thin client. The thin client needs graphics API (107), on top of which applications (106, 106', 106'') run. The thin client needs a print driver (109) to produce the print job in the DIF format. The thin client uses the network server to translate the print job. If the printer application were moved to the server, it would not be clear what is the scope of "printer application" and how it relates to other applications that require printing capabilities. Furthermore, it would not be clear how the print options would be collected at the server. There is no suggestion of collecting print options through sending images of GUI interfaces. Thus, from such a description of Carter, it would not be obvious to make these modifications suggested in the Office Action for the rejection of claims 5, 18, 29, 40, 47 and 60.

Claims 7, 20, 31, 49 and 62 were rejected under 35 U.S.C. 103(a) as being unpatentable over Carter in view of Maniwa (U.S. Patent No. 4,768,483). Applicant respectfully disagree. For example, claim 7 recites:

> 7. (currently amended) The method of claim 6, wherein the peripheral device comprises a scanner; and the control information is applied to operate the scanner.

Carter teaches to use a network server to translate a print job for the printer of a client. However, such a teaching is not applicable to a scanner. If the teaching of Carter were applied to a scanner, the network server would be used to convert a "scan job" from one format to another before sending to a scanner, which does not make sense. It is understood that the application programs do not generate "scan job" in a similar fashion as for a printer. Applicant respectfully submits that it is the teaching of the present invention to establish the

two-way communication channel so that the server can control the peripheral device attached to the client, as discussed above. The teaching of the present invention can be applied to a scanner. However, the teaching of Carter is not generally applicable to a scanner.

Claims 11-12, 14, 24-25, 35-36, 53-54, 56 and 66-67 were rejected under 35 U.S.C. 103(a) as being unpatentable over Carter in view of Koga (EP Patent No. 1,026,578). Applicant respectfully disagrees. In one embodiment of the present invention, the portable device does not render web pages into images for display. The server renders a web page that is requested by the portable device into an image. The image is sent from the server to the portable device for display. When the user of the portable device wants to print the web page, the portable device sends a message, not a print job, to the server. The server generates the print job from the web page in response to the message. Since the server has a two-way communication channel to control the printer, the server prints the web page on the printer, which is attached to the portable device. For example, claims 11 and 12 further recite:

> 11. (previously presented) The method of claim 2, further comprising:
> receiving at the server a request from the remote device for a document;
> rendering at the server the entire document into an image; and
> transmitting the image in a compressed format from the server to the remote device for display;
> wherein the instruction from the remote device is in connection with the image.
>
> 12. (previously presented) The method of claim 11, wherein the peripheral device comprises a printer; and, the instruction comprises a print command to print the document.

However, the default properties for print jobs and for the printer do not correspond to the document that is requested by the portable device for display. A graphical user interface for manipulating the properties cannot be considered as rending the entire document into an image. The default properties are used to control the generation of print jobs in a print-ready format. These properties are received at the client for the initialization, not for display on the client. Further, these default properties are used by the server to convert the print job from a device-independent format to the print-ready format. These properties are not *the document* to be printed. It is not clear how and why to print a user interface that sets the print options for a print job. Thus, the elements of the cited references do not correspond to the claim limitations.

Although Koga teaches to use a web based printer configuration system, the user interface is based on HTML. In Koga, the Internet browser running on the client renders the HTML for display. The web server of Koga *does not render the HTML into an image.* A web page in HTML is not an image.

Claims 13, 26, 55 and 68 were rejected under 35 U.S.C. 103(a) as being unpatentable over Carter, in view of Koga and further in view of Mogul (U.S. Patent No. 6,243,761). Applicant respectfully disagrees. For example, claim 13 recites:

> 13. (previously presented) The method of claim 11, wherein the document represents a web page having links; and, said transmitting the image comprises:
> dividing the image into a plurality of sections;
> compressing the plurality of sections into a plurality of compressed sections respectively; and
> transmitting the plurality of compressed sections to the remote device in a sequence according to a display priority.

The Office Action asserted that "both compressing images sent over the web, and transmitting portions of a web page to a client in priority order are well known". However, claim 13 recites "dividing the image into a plurality of sections", where the image is rendered at the server from the *entire document*. Dividing such an image that is rendered from the entire web page is no described in Mogul. Mogul teaches to adjust the content of web pages at their sources so that the pages can be optimally *rendered at destination* depending on effective network condition (e.g., Col. 1, lines 8-12, Mogul). Thus, as in a traditional approach, the client, not the server, renders the web pages for display in Mogul. It is understood that a web page may include a number of embedded images, text and other components. The web page generally specifies the content but not the exact image of the entire page. A browser is generally used to determine the exact image of the entire page through rendering the web page. Rendering a web page for display is a complex process, which typically requires a sophisticated software application program (e.g., Internet Explore, or Netscape browser) and a powerful processor to obtain a good quality rendering result. According to Mogul, the components of the web page, such as the embedded graphics images, may be adjusted to reduce the size, the resolution and the number of colors (e.g., Col. 4, lines 40-43, Mogul). However, Mogul does not suggest rendering *the entire web page*, including links, into an image, which is then divided into sections for transmission according to display priority.

Thus, Applicant respectfully submits that the pending claims are patentable over the cited references.

Please charge any shortages or credit any overages to Deposit Account No. 02-2666. Furthermore, if an extension is required, Applicant hereby requests such extension.

Respectfully submitted,

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